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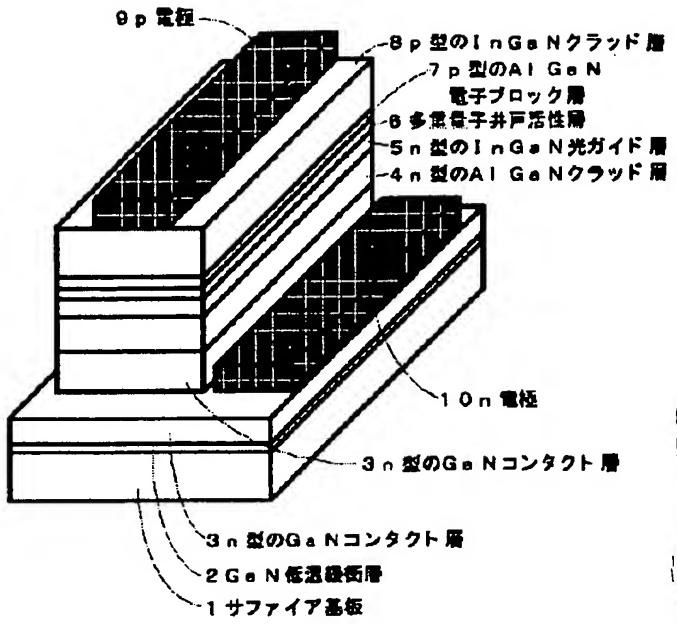
TITLE : NITRIDE SEMICONDUCTOR LIGHT EMITTING ELEMENT



ABSTRACT : PROBLEM TO BE SOLVED: To solve the problem raised by the conventional nitride semiconductor light emitting element that the p-type AlGaN constituting the clad layer of the element has a very high electrical resistance and lowers the internal quantum efficiency of the active layer of the element when a voltage drop or a temperature raise occurs.

SOLUTION: A nitride semiconductor light emitting element is constituted by successively laminating a GaN low-temperature buffer layer 2 having the thickness of 30 nm, Si-doped n-type GaN contact layer 3 having the thickness of 3 μm, Si-doped n-type Al0.05Ga0.95N clad layer 4 having the thickness of 0.5 μm, Si-doped n-type In0.05Ga0.95N light guide layer 5 having the thickness of 0.2 μm and a GaN ratio which is different from that the conventional example, multiple quantum well active layer 6 composed of three cycles of In0.2Ga0.8N quantum well layers having the thickness of 4 nm and In0.05Ga0.95N barrier layers having the thickness of 8 nm, Mg-doped p-type Al0.2GaN0.8N electron blocking layers 7 having the thickness of 20 nm, and Mg-doped p-type InGaN clad layer 8 which is formed without using the p-type AlGaN and has the thickness of 0.6 μm on the (0001) surface of a sapphire substrate 1 by the metal organic vapor phase growth method.